CLAIMS

1. A fastener and washer assembly, comprising:

a washer including a flat bearing portion, a central opening through said bearing portion, and end portions inclined from a plane of said bearing portion including elongated openings on opposed sides of said central opening, and a fastener having a body portion and a radial flange portion received in said elongated openings retaining said washer on said fastener, whereby said fastener is free to rotate relative to said washer.

2. The fastener and washer assembly as defined in Claim 1, wherein said end portions are inclined relative to said bearing portion at an angle of less than 90 degrees.

3. The fastener and washer assembly as defined in Claim 1, wherein said washer includes side faces and end faces and said elongated openings are generally parallel to said end faces.

4. The fastener and washer assembly as defined in Claim 1, wherein said elongated openings each include a generally semi-circular inner side wall adjacent said central opening.

5. The fastener and washer assembly as defined in Claim 3, wherein said central opening is circular and said inner side wall of said elongated openings are generally semi-circular.

6. The fastener and washer assembly as defined in Claim 1, wherein said end portions are bent relative to said bearing portion along an axis generally aligned with an outer wall of said elongated openings.

7. The fastener and washer assembly as defined in Claim 1, wherein said elongated openings are arcuate including arcuate inner and outer side walls.

8. The fastener and washer assembly as defined in Claim 1, wherein said fastener is a female fastener having an axial bore generally coaxially aligned with said central opening of said washer.

9. The fastener and washer assembly as defined in Claim 1, wherein said fastener is a male fastener having a shank portion received through said central opening of said washer.

10. The fastener and washer assembly as defined in Claim 1, wherein said radial flange portion includes a frustoconical outer surface received in said elongated openings of said washer.

11. A fastener and washer assembly, comprising:

a washer including a planar central bearing portion having a central opening therethrough, generally parallel slots on opposed sides of said central opening equally spaced from said central opening, and opposed end portions inclined relative to said planar central bearing portion bent relative to said planar central bearing portion along an axis extending through said slots; and

a fastener having a body portion received on said planar central bearing portion of said washer and a radial flange portion received through said slots, rotatably supporting said washer on said fastener.

12. The fastener and washer assembly as defined in Claim 11, wherein said end portions are inclined relative to said planar central bearing portion at an angle of between 40 and 80 degrees.

13. The fastener and washer assembly as defined in Claim 11, wherein said radial flange portion of said fastener includes a frustoconical outer surface.

14. The fastener and washer assembly as defined in Claim 11, wherein said slots each include a generally semi-circular inner side wall adjacent said central opening defining a generally semi-circular outer surface of said planar central body portion.

15. The fastener and washer assembly as defined in Claim 11, wherein said fastener is a female fastener having a bore therethrough generally coaxially aligned with said central opening of said washer.

16. The fastener and washer assembly as defined in Claim 11, wherein said fastener is a male fastener including a shank portion integral with said body portion extending through said central opening of said fastener.

17. A method of forming a fastener and washer assembly, comprising the following steps:

forming a flat washer blank having a central opening and elongated slots on opposed sides of said central opening equally spaced from said central opening;

forming a washer from said washer blank by deforming end portions of said washer blank about a lineal axis adjacent an outer surface of said elongated openings, wherein said end portions are inclined relative to a portion of said washer surrounding said central opening at an angle of less than 90 degrees; and

assembling said washer on a fastener having a body portion and a radial flange portion by driving said radial flange portion against at least one of said end portions of said washer, resiliently biasing said end portions outwardly and receiving said radial flange portion in said elongated openings.

18. The method of forming a fastener and washer assembly as defined in Claim 17, wherein said fastener is a female fastener having a bore through said body portion and said flange portion, said method including generally aligning said bore of said female fastener with said central opening of said washer prior to driving said radial flange portion against at least one of said end portions of said washer.

19. The method of forming a fastener and washer assembly as defined in Claim 17, wherein said fastener is a male fastener having a shank portion integral with said radial flange portion coaxially aligned with said body portion, said method including receiving said shank portion through said central opening of said washer prior to driving said radial flange portion against said end portions of said washer.

20. The method of forming a fastener and washer assembly as defined in Claim 17, wherein said method includes deforming said end portions of said washer blank at an angle of between 40 and 80 degrees relative to a central portion of said washer surrounding said central opening.

21. A method of forming a fastener and washer assembly, comprising the following steps:

forming a washer blank from a flat generally rectangular metal plate by forming a central opening through said plate, forming elongated openings on opposed sides of said central opening and deforming end portions of said metal plate adjacent said elongated openings along an axis generally parallel to an axis of said elongated openings extending along an outer wall of said elongated openings; and

assembling said washer on a fastener having a body portion and a radial flange portion by driving said radial flange portion against at least one of said end portions of said washer, resiliently biasing said end portion outwardly and receiving said radial flange portion in said elongated openings.

22. The method of forming a fastener and washer assembly as defined in Claim 21, wherein said method includes forming elongated openings on opposed sides of said central opening having an arcuate inner wall.

23. The method of forming a fastener and washer assembly as defined in Claim 21, wherein said method includes forming a washer blank from a flat generally rectangular metal plate having arcuate end surfaces.

24. The method of forming a fastener and washer assembly as defined in Claim 21, wherein said fastener is a female fastener having a bore through said body portion and said radial flange portion, said method including generally aligning said bore of said female fastener with said central opening of said washer prior to driving said radial flange portion against said at least one of said end portions of said washer.

25. The method of forming a fastener and washer assembly as defined in Claim 21, wherein said fastener is a male fastener having a shank portion integral with said radial flange portion coaxially aligned with said body portion and said radial flange portion, wherein said method includes receiving said shank portion through said central opening of said washer prior to driving said radial flange portion against at least one of said end portions of said washer.